INTERNATIONAL STANDARD

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Fixed capacitors for use in electronic equipment –

Part 25-1:
Blank detail specification –
Surface mount fixed aluminium electrolytic capacitors with conductive polymer solid electrolyte – Assessment level EZ

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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International Standard IEC 60384-25-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

The text of this standard is based on the following documents:

FDIS	Report on voting
40/1734/FDIS	40/1757/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 60384 consists of the following parts, under the general title *Fixed capacitors for use in electronic equipment*:

Part 1: Generic specification

Part 2: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors

Part 3: Sectional specification: Fixed tantalum chip capacitors

Part 4: Sectional specification: Aluminium electrolytic capacitors with solid and non-solid electrolyte

Part 5: Sectional specification: Fixed mica delectric d.c. capacitors with a rated voltage not exceeding 3 000 V – Selection of methods of test and general requirements

Part 6: Sectional specification: Fixed metallized polycarbonate film dielectric d.c. capacitors

Part 7: Sectional specification: Fixed polystyrene film dielectric metal foil d.c. capacitors

Part 8: Sectional specification: Fixed capacitors of ceramic dielectric, Class 1

Part 9: Sectional specification: Fixed capacitors of ceramic dielectric, Class 2

Part 11: Sectional specification: Fixed polyethylene-terephthalate film dielectric metal foil d.c. capacitors

Part 12: Sectional specification: Fixed polycarbonate film dielectric metal foil d.c. capacitors

Part 13: Sectional specification: Fixed polypropylene film dielectric metal foil d.c. capacitors

Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains

Part 15: Sectional specification: Fixed tantalum capacitors with non-solid or solid electrolyte

Part 16: Sectional specification: Fixed metallized polypropylene film dielectric d.c. capacitors

Part 17: Sectional specification: Fixed metallized polypropylene film dielectric a.c. and pulse capacitors

Part 18: Sectional specification: Fixed aluminium electrolytic chip capacitors with solid and non-solid electrolyte

Part 19: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric chip d.c. capacitors

Part 20: Sectional specification: Fixed metallized polyphenylene sulphide film dielectric chip d.c. capacitors

Part 21: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1

Part 22: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2

Part 23: Sectional specification: Fixed surface mount metallized polyethylene naphthalate film dielectric d.c. capacitors

Part 24: Sectional specification: Surface mount fixed tantalum electrolytic capacitors with conductive polymer solid electrolyte

Part 25: Sectional specification: Surface mount fixed aluminium electrolyte capacitors with conductive polymer solid electrolyte

All sectional specifications mentioned above do have one or more blank detail specifications being a supplementary document, containing requirements for style, layout and minimum content of detail specifications.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 25-1: Blank detail specification – Surface mount fixed aluminium electrolytic capacitors with conductive polymer solid electrolyte – Assessment level EZ

Blank detail specification

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style, layout and minimum content of detail specifications. Detail specifications not complying with these requirements may not be considered as being in accordance with IEC specifications nor shall they so be described.

In the preparation of detail specifications the content of 1.4 of the sectional specification shall be taken into account.

The numbers between square brackets on the first page of the detail specification correspond to the following information, which shall be inserted in the position indicated.

Identification of the detail specification

[1] The "International Electrotechnical Commission" or the National Standards Organization under whose authority the detail specification is drafted.

[2] The IEC or National Standards number of the detail specification, date of issue and any further information required by the national system.

[3] The number and issue number of the IEC or national generic specification.

[4] The IEC number of the blank detail specification.

Identification of the capacitor

[5] A short description of the type of capacitor.

[6] Information on typical construction (when applicable).

[7] Outline drawing with main dimensions which are of importance for interchangeability and/or reference to the national or international documents for outlines. Alternatively, this drawing may be given in an annex to the detail specification.

[8] Application or group of applications covered and/or assessment level.

[9] Reference data on the most important properties, to allow comparison between the various capacitor types.

[1]	[2]
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: [3]	IEC 60384-25-1 [4]
	Surface mount fixed aluminium electrolytic capacitors with conductive polymer solid electrolyte [5]
Outline drawing : (see Table 1) [7] (…angle projection)	[6]
	Assessment level(s): EZ [8]

Information on the availability of components qualified to this detail specification is given in EC QC 001005. [9]

1 General data

1.1 Recommended method(s) of mounting (to be inserted)

(See 1.4.2 of IEC 60384-25).

1.2 Dimensions

Table 1 – Case size reference and dimensions

Case size reference	Dimension mm						
	L	***W***	***H***				

NOTE 1 When there is no case size reference, Table 1 may be omitted and the dimensions should be given in Table 2, which then becomes Table 1.

NOTE 2 The dimensions should be given as maximum dimensions or as nominal dimensions with a tolerance.

NOTE *L, W, H* of the symbols of Table 1 is the example of the corner shape capacitors.

1.3 Ratings and characteristics

Rated capacitance range (see Table 2)

Tolerance on rated capacitance

Rated voltage (see Table 2)

Surge voltage (see Table 2)

Climatic category

Rated temperature

Rated ripple current (see Table 3)

Tangent of loss angle (see Table 3)

Leakage current (see Table 3)

Equivalent series resistance (see Table 3)

Table 2 – Values of capacitance and of voltage related to case sizes

Rated voltage V				
Surge voltage V				
Rated capacitance µF	**Case sizes**	**Case sizes**	**Case sizes**	**Case sizes**

Table 3 – Values of rated ripple current, equivalent series resistance, tangent of loss angle and leakage current

U_R V	C_R µF	**Rated ripple current** A	**Equivalent series resistance** mΩ	**Tangent of loss angle** tan δ	**Leakage current** µA
		at 105 °C or 125 °C and 100 kHz (if applicable)	**at 20 °C and 100 kHz**	**at 20 °C and 120 Hz**	

Table 4 – Values of resistance to soldering heat, damp heat, steady state and characteristics at high temperature

U_R	C_R µF	**Resistance to soldering heat**		**Damp heat, steady state**	**Characteristics at high temperature**
		ΔC/C %	**ΔESR/ESR** %	**ΔC/C** %	**ΔC/C** %

1.4 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60384-1:1999, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification*

IEC 60384-25: *Fixed capacitors for use in electronic equipment – Part 25: Sectional specification: Surface mount fixed aluminium electrolytic capacitors with conductive polymer solid electrolyte*